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ABSTRACT

Outstanding cost-reduction programs implemented at colleges and universities during calendar year 1987 are recognized. Each of the 54 award-winning ideas is described in a paragraph-length program summary. Although some aspects of programs may be unique to a particular institution, creative administrators are challenged to tailor the programs to meet the special requirements of their institutions. The programs include: treatment of hazardous wastes; facility management; negotiations for computer services; negotiations for carpet; work scheduling of employees; employee rehabilitation; use of mail services; automation to reduce personnel costs; computerized inventory and purchasing systems and timekeeping systems; cooperative programs; energy saving projects; fringe benefit packages for employees; and others. A list of all 1988 participants and a list of 1987 winners are included. (JDD)

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1988 WINNERS OF THE COST REDUCTION INCENTIVE AWARDS

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NACUBO/USX

NACUBO/USX *Cost-Reduction Incentive Awards*

The National Association of College and University Business Officers (NACUBO) and the USX Foundation are proud to announce the winners of the thirteenth annual Cost-Reduction Incentive Awards Program and to publish their innovative ideas. Fifty-four institutions received monetary awards ranging from $100 to $7,500. Fourteen institutions received honorable mention awards.

The awards recognize outstanding cost-reduction programs implemented during calendar year 1987. Although these programs have been recognized as worthy, NACUBO and USX can offer no assurance that the programs will function effectively for others.

The means of cost reduction presented in this booklet are saving money for the institutions named. Although some aspects of programs may be unique to a particular institution, creative administrators are challenged to tailor the programs to meet the special requirements of their institutions.

NACUBO and USX urge you to circulate this publication to persons on your campus who have responsibility in such areas as energy, financing, personnel, and computer operations and to others mentioned herein. It is hoped that this booklet will encourage you in making efforts to reduce costs at your own institution.

To obtain further information on any of these cost-reduction ideas and techniques, readers can send in the request card provided or write or telephone the Information Exchange Manager, NACUBO, One Dupont Circle, Suite 500, Washington, DC 20036-1178; (202) 861-2518. The number at the end of each summary is provided as identification in using the request cards. *The first nine proposals will be provided free; subsequent proposals will be subject to copying charges of $1 each.*

Cost-Reduction Incentive Awards Selection Committee

John H. Anthony, Chairperson; *Collin County Community College*
William A. Gregory, Jr., *USX Foundation*
G. A. Hartford, Jr., *Washington State University*
Roger D. Lowe, *Wichita State University*
William C. Neland, *Oregon State System of Higher Education*
Fred S. Vorsanger, *University of Arkansas Foundation*

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1988 Winners

Integrated Treatment System for Hazardous Waste

Iowa State University

In the past, Iowa State University (ISU) has used the traditional method of shipping its hazardous wastes in 55-gallon drums to land disposal facilities with EPA permits. ISU implemented many of the common practices to minimize the amount of hazardous waste being shipped, including purchase controls, waste-reduction routines, and recycling programs. These practices proved somewhat effective, but they did not have a major impact on the total waste volume, waste disposal costs, and, most important, future liability in the landfill process. Officials at ISU decided to conduct an inventory of various hazardous waste streams to identify chemical wastes that would lend themselves to local treatment and thereby eliminate the disposal of hazardous wastes completely. Using a number of simple chemical-treatment methods—such as acid-base reactions, oxidations, and filtrations—Iowa State has *saved more than $295,000 annually*. Furthermore, it has avoided potential cleanup costs, which are usually the responsibility of the original waste generators.

88-082

On-Campus Treatment of Hazardous Wastes

Southern Illinois University at Carbondale

Most colleges and universities generate hazardous waste and therefore must provide for the safe disposal of it. Southern Illinois University at Carbondale, through its Pollution Control Department, has developed and implemented a method of treating some of the various hazardous wastes generated by the university. The treatments are simple, inexpensive, and legal—and they can be done on-site. Moreover, they provide a form of ultimate disposal, thereby relieving the university of future liability. The treatment program was designed around three basic types of waste products: (1) waste acids and bases, (2) cyanide compounds, and (3) acidic wastes

containing high levels of toxic metals generated by environmental water analysis. Using relatively simple techniques of neutralization, many of the acids and bases were rendered harmless. The cyanide compounds were destroyed with a hypochloride solution, such as that found in household bleach. Wastes from water-analysis tests were solidified in a cement mixture and thus made safe. The treatments, which were carried out by university personnel, helped lead to *an annual saving of almost $20,000*.

88-256

Off-Site Facility Management of Central Stores

Northwestern University

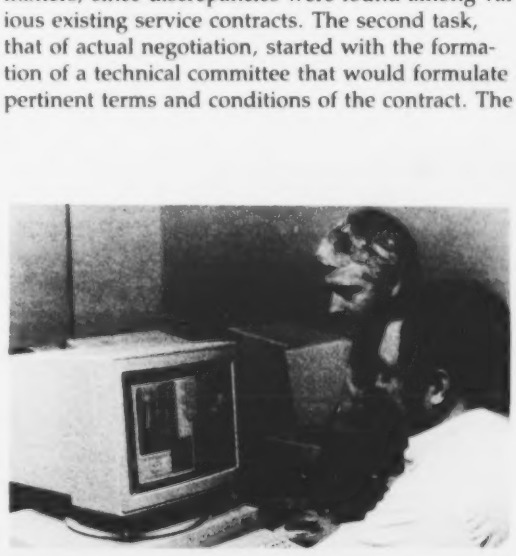
By 1987, Northwestern University had relocated its Central Stores to a new location, reduced the space that it occupied, and cut its inventory size. However, an analysis of Northwestern's stores operation revealed that even with a scaled-down stores, there were still substantial costs and additional concerns that needed to be addressed. University administrators realized that the amount spent for various office supplies was only a fraction of their total cost when stocked on campus. Furthermore, it was found that many departments were circumventing stores and going directly to outside suppliers. Therefore, rather than continue to tie up capital and space with an often unwieldy and burdensome system, the university offered its central stores operation to an outside vendor. The vendor agreed to take over most stores functions in return for the privilege of providing most of the office supplies used by the university. This resulted in improved service to all areas of the university and *a saving of more than $276,000*.

88-008

Negotiation of Maintenance Contracts for Computer Hardware and Software

Texas A&M University

Texas A&M University developed a negotiating process for the maintenance of its computer hardware and software systems. That process consisted of three major cooperative tasks: compilation of inventory data, actual negotiation with vendors, and monitoring of subsequent contracts. The first task proved the need for enhanced coordination in such matters, since discrepancies were found among various existing service contracts. The second task, that of actual negotiation, started with the formation of a technical committee that would formulate pertinent terms and conditions of the contract. The



committee consisted of one employee from Purchasing and four end users from different disciplines. After a review of proposals, the committee entered negotiation with an aim to increase levels of service and thus improve computer efficiency. Monitoring resulting contracts is coordinated through the Purchasing Department, with input still received from end users. Another benefit has been the formation of user groups for each major type of system, allowing further education and improved working relationships between user and vendor. The university has *saved almost $725,000.*
88-020

Standardization/Maintenance Program for Photocopier

Arizona State University

Like most colleges and universities, Arizona State University (ASU) has a growing number of photocopiers encompassing many different makes and models. Prior to 1987, there were no established standards for the purchase and maintenance of such equipment at the university. Dozens of copiers were available from 18 different manufacturers, and maintenance was provided by several local vendors. This situation did not allow the university to take advantage of economies of scale, nor did it provide a coordination of contracts for efficient service. ASU embarked on a standardization/maintenance program to reduce acquisition costs for equipment and supplies and to bring routine maintenance tasks on campus. A committee representing a broad cross section of the university community was formed to develop a request for proposal and to evaluate vendor submittals. The award was then made to the vendor offering the best combination of equipment, support, and cost. Furthermore, a centralized and economical rental program has been established through ASU's Office Machine Rental and Repair Department, providing increased flexibility in machine-placement decisions. The program will result in *an annual saving of $386,000.*
88-059

Management-Performance Study

Montana State University

Because of depressed economic conditions in Montana, several state legislators suggested that significant reductions could be made in administrative areas of Montana State University without affecting the mission of the Montana State University System. To enlighten state lawmakers, a review of all administrative functions was conducted by a team composed of representatives from the Montana business and engineering communities and members of two national higher education associations. The team examined organization, quality of service provided, level of institutional investment, duplication of service, communications and cooperation, innovations, and potential for privatization. The study that the team produced clearly demonstrated that the university was not overstaffed in administrative areas and had not spent an inordinate amount of resources on its administration. Both of these findings were contrary to perceptions held by state officials and legislators. After the review was completed, the team members conveyed their findings and recommendations to state officials. The team's recommendations were implemented, and the result was a substantial addition to the university budget and *an annual saving of $70,000.*
88-126

CHIP: Using Athletic Training Methods for Employee Rehabilitation

Central Michigan University

In keeping with the theory that maintaining employees at peak performance levels leads to a happier, healthier, and more effective work force, Central Michigan University established the Central Health Improvement Program (CHIP). The program was designed to (1) expedite the rehabilitation of injured employees and (2) provide preventive and rehabilitative care for employees by using athletic training techniques. It saves not only by recovering otherwise lost time, but also by dramatically reducing Worker's Compensation and health-care costs to the university. In addition, the program provides strengthening that helps prevent injuries related to work, which leads to further savings. CHIP gets employees back to work by using the same effective techniques that get injured athletes "back into the game." This popular program has resulted in *an annual saving of more than $170,000.*
88-136

Changing Work Schedule of Physical Plant Employees

University of Washington

One of the major factors leading to employee effectiveness is eliminating disruptions affecting employees. Although the effects of unplanned distractions at the University of Washington's Physical Plant had been minimized, employees still found that time was being lost due to the very structure of their eight-hour workday. This had traditionally consisted of a 4½-hour morning work period with a 15-minute rest break, a ½-hour lunch break, and a 3½-hour afternoon work period with another 15-minute rest break. The day was broken into four work periods, with three breaks and several stop/start cycles, leading to a great deal of movement to and from the work at hand. This resulted in uncontrolled time and therefore lost time. The last work period became disproportionately short, leading to a further loss of employee effectiveness. A completely new work schedule consisting of three 2½-hour work periods separated by two ½-hour rest periods was implemented. This system covers the same amount of time with fewer interruptions. It led to a more productive work force and *an annual saving of almost $469,000.*
88-139

Right-to-Know Data-Management System

State University of New York at Albany

Under the New York State Right-to-Know Law, employers are required to keep a record of the names, addresses, and Social Security numbers of all employees who handle toxic substances. These records must be made available on request to the employees, their representatives, or the State Health Department, and the records must be maintained for no less than 40 years. Additionally, the law states that the employer must provide information and actively train employees about the possible effects of any toxic substances in the workplace. In response to the law, the Office of Environmental Health and Safety at the State University of New York at Albany has developed a comprehensive data-management system that is capable of correlating employees with toxic substances used and the location of their use. This sophisticated, menu-driven system uses an IBM-compatible microcomputer and Ashton-Tate's dBase III Plus and links several data bases. It is capable of generating a variety of directories and reports detailing the inventory of, training about, and exposure to thousands of substances as they relate to more than 3,600 university employees. The system has *saved almost $1,228,000.*
88-029

Economical Use of Vehicle Tires

Texas Tech University

The maintenance of a safe and dependable fleet of vehicles is an absolute necessity and one that becomes increasingly difficult to achieve as budgets become more limited. The vehicles at Texas Tech University are divided into two groups: (1) the campus fleet, used mainly for short trips on campus, and (2) the rental fleet, used for longer trips and under varied road conditions. It was observed that the rental fleet experienced the majority of tire punctures, stem leaks, and blowouts subsequent to 50 percent tread wear. These tire failures resulted in repair or replacement off campus—often at three to four times the cost of similar services on campus. To remedy this situation, Texas Tech began replacing its rental fleet tires when 50 percent tread wear was evident. Those tires with 50 percent tread wear were then used as replacements on the campus fleet. The result was a 90 percent reduction in highway tire failures and *an annual saving of more than $4,000.*
88-036

Mail Distribution of Parking Permits for Students

University of Houston

For the spring semester of 1987, the University of Houston implemented a new process of mailing parking permits to the 12,047 students who went through priority registration at that time. Arrangements for parking permits had previously involved the issuing of permits by temporary employees at the Parking and Transportation Office. This meant long lines with the temporary employees spending an average of five minutes on paperwork with each student. By making a small adjustment to the registration form, Parking and Transportation employees were able to have a preprinted computerized mailing card generated for each student in need of a parking permit. The permit was attached to the card and then placed in a window envelope and mailed to the student. The cards have preprinted permit numbers, ensuring a smooth and organized process. This resulted in a reduction of the number of temporary employees hired for registration, which *saved more than $6,000 annually.*
88-044

Outplacement Service Center

University of Cincinnati

Because of depressed economic conditions and resulting budget constraints, a number of higher education institutions face the task of abolishing positions. In April of 1987, the University of Cincinnati created an Outplacement Service Center for

providing comprehensive reemployment assistance to displaced employees. This internal program was designed to provide a humanistic alternative to the traditional termination process. The university reduced unemployment compensation, furnished reemployment opportunities, and created a service center on campus. The service center provided office space, support staff, and various career resources to the displaced employees. The wide range of available services helped university staff and community professionals effectively assist 80 percent of these employees through their reemployment transition in an eight-month period. The university realized *a cost saving of almost $265,000.*
88-053

Integrated Digital Network for Voice, Data, and Video Communications

Dallas County Community College District

To better control its communications facilities, the Dallas County Community College District (DCCCD) needed to take advantage of the latest telecommunications technologies available. DCCCD developed and implemented a strategic plan for communications that uses an integrated digital network to carry voice, data, and video information to nine district locations. The network uses microwave, fiber optics, digital cross connect, and T1 technology to provide the first software-defined educational network to merge three technologies into one pipeline. With the project's completion, DCCCD has gained control of its communications system and can now contain future costs attributable to inflation and growth. The system allows expanded capabilities and has led to a *saving of more than $482,0000.*
88-057

Exit Interview Video for Perkins Loan Borrowers

Grand Valley State University

All institutions participating in the Perkins Loan Program (formerly, National Direct Student Loan Program) are required to administer an exit interview to students leaving or graduating from the institution with an unpaid Perkins Loan. To satisfy

this requirement, Grand Valley State University created a videotape through the combined efforts of students, faculty, and staff members. The 10-minute tape explains such rights and responsibilities of the borrower as the notification of address change, rights of deferment, and consequences of student default. The specific details of a particular borrower's loan (that is, amount, interest rate, and first payment due date) are stated in the loan-repayment schedule, which is distributed at the end of the video. A question-and-answer period occurs at this point. Producing the video at the university resulted in *savings of more than $16,000.*
88-090

Repair of Tablet Arms on Auditorium Seats

University of Virginia

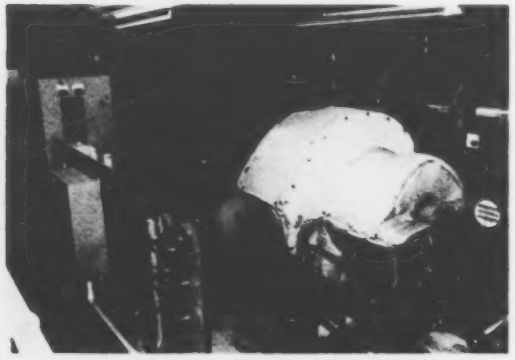
The auditorium in the chemistry building at the University of Virginia contains 490 seats. These seats are equipped with swing-up tablet arms that are used as writing surfaces. During the years, many of the mechanisms that hold the tablet arms in the upright position had become worn or broken and thus could not be used by students for taking notes. Since the original manufacturer was out of business and no substitutes were available, it appeared that replacing all auditorium seats was the only option—a move that would result in the loss of one-third of the total seating capacity and could cost more than $100,000. Workers in the university's Furniture Shop began exploring other methods of solving the problem. They came up with the idea of removing the arm from the seat, grinding out some of the cast iron from the locking mechanism, and inserting a custom-made steel adapter. The adapter restored the tablet arm's ability to stay locked upright and required no replacement of original parts. Through this innovation, the university *saved almost $92,000.*
88-102

Computerized Inventory for Tool Room

Louisiana State University

To more effectively manage its Tool Room inventory, Louisiana State University created a computer program to monitor the assignment of various tools to employees. The system was developed at the

university on an IBM personal computer and written in Rbase II. The computerized inventory system has several advantages, among which are the optimal allocation of existing tools, a more accurate accounting of outstanding items, and the improved forecasting of future Tool Room expenditures. The implementation of the system resulted in *annual savings of $5,000.*
88-179



Conversion and Installation of a 1,350-KW Cogenerator

University of South Florida

Officials at the University of South Florida recognized a saving opportunity involving the retrofit of an existing 2,600-HP condensing steam turbine (which had been driving a 2,400-ton centrifugal refrigeration compressor) to an 1,800-HP noncondensing turbine that would be used to drive a new 1,350-kw cogenerator. The existing steam condenser and 2,400-ton compressor were scrapped, and installed in their place was a 1,400-ton absorption refrigeration unit and the 1,350-kw cogenerator. The project basically involved the removal of a steam condenser that dumped the latent heat of the turbine exhaust to the outdoors by means of a cooling tower (thus completely wasting this energy) and replacing it with a new "condensing unit"—that is, the absorber, which utilizes the latent heat of condensation to provide 1,400 tons of refrigeration. Besides getting 1,400 tons of refrigeration for virtually nothing, the university benefits from 1,350 kw of electricity, which contribute to *an annual saving of almost $193,000.*
88-003

Double-Stage Heat Recovery from Gas-Compression System

Furman University

Gas compressors for the walk-in coolers in the Furman University dining hall provided the source for heat recovery and the elimination of waste cooling water in this energy-conservation project. Previously, heat extracted from the walk-in coolers had been rejected by the refrigeration cycle and transferred to tap water, and the heated water was then discharged into the drain. Both the heat and the water used to remove the heat were being expelled into the outside environment. Through the installation of a two-stage, counterflow heat-recovery system, the heat extracted from the refrigeration cycle is now being transferred into potable water. This heated water is available for use throughout the dining facilities, and the university *saves almost $11,000 annually.*
88-005

Community-Service Project Providing Maintenance and Custodial Care

Utah Valley Community College

Utah Valley Community College (UVCC) has experienced serious reductions in operational and maintenance budgets during the past two years. Consequently, innovative concepts were required to accomplish the normal functions of this two-year college with two campuses that serve more than 7,000 regular students and nearly 10,000 noncredit students. The Provo and Orem campuses have a total of nearly 700,000 square feet of building space that requires extensive cleaning and maintenance. In addition, the 188 acres of the Orem campus require considerable grounds care. To provide these services in an economical manner, UVCC has teamed up with the Utah State Department of Corrections to use people who have violated the law and been permitted to pay their fines through public-service work. Offenders assigned to UVCC perform grounds maintenance and light custodial duties. From January to December 1987, almost 11,000 hours were expended on the two campuses by persons permitted to work off their fines in this manner. This project has provided the college with *an annual saving of more than $36,000.*
88-007

Implementation of ZIP + Four in Central Mail Room

Auburn University

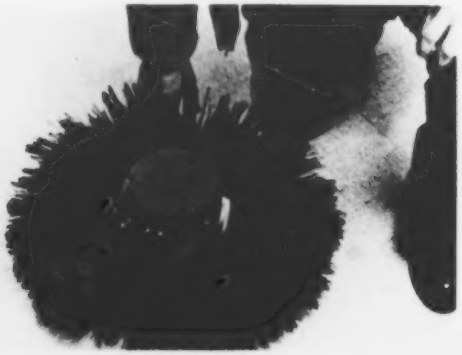
In March of 1987, Auburn University reorganized the responsibility of its mail service. Auburn's plan involved the automation of departmental billings, presorting of in-state mail, and reorganization of job descriptions and responsibilities. It also involved a review of the mail service in each department. Several recommendations for saving money were made, and the implementation of them resulted in *an annual saving of $65,000.*
88-016

Community Cooperative Dormitory Renovation

Manhattanville College

Senior tradespeople from Manhattanville College, working with Westchester County BOCES (a local high school program) and Summer Jobs for Youth, gave the college's freshman dormitory a cosmetic renovation by using disadvantaged youth as its work force. The senior tradespeople trained and supervised the youngsters in plumbing, electrical work, glazing, and painting. The renovation involved the painting of 295 rooms and all public corridors; the repair of all in-room sinks, common bathroom sinks, showers, and toilets and the overhaul of their plumbing; the replacement of

scratched acrylic window walls and full-light doors; the replacement of light fixtures as needed; the installation of new exit signs; the repair of steam leaks in the building's mechanical rooms; the replacement of floor and ceiling tiles; and the installation of smoke detectors in each room. The mini-renovation was accomplished in 10 weeks, and the college *saved more than $70,000* by using the disadvantaged youth.
88-018



Cleaning Device for Boiler Combustion Chamber

Waukesha County Technical College

Cleaning the interior of a boiler combustion chamber is often a dirty, undesirable, and at times even dangerous work assignment. Waukesha County Technical College has designed a rotary brush that both cleans the interior chamber walls and also transports the debris to the rear of the boiler. The device consists of a unique center hub that readily accepts six segments of a 24" diameter broom commonly used for snow removal. Broom segments with both steel and polypropylene bristles provide both cleaning and transporting capabilities. The hub is driven by connecting a 1" outside diameter galvanized pipe shaft to a pipe fitting that is welded to the hub. Power to the pipe shaft is provided by an electric drill motor. A guide sleeve is attached to the front of the boiler to maintain alignment and to support the pipe shaft during cleaning. A standard shop vacuum is used at the rear of the boiler to control dust and debris. This device has not only made an unattractive job quicker and easier, it has resulted in *an annual saving of more than $1,000.*
88-022

Portable, Large-Screen Computer Stations for Teaching

Drexel University

The widespread use of microcomputers in classrooms at Drexel University led to the need for instructors to be able to display a computer's screen to large groups of students. To meet this need, the university staff created custom-made portable, large-screen (23") computer stations that can be delivered to wherever instructors require such display on campus. Each unit was created by modifying existing audiovisual carts with special protective hoods for the computers, a lazy Susan, and large, shock-absorbent wheels. To use a station, an instructor stands at the front of the room watching his or her own computer screen while students watch the output of the instructor's computer as it appears on the 23" screen. The units are portable and versatile and can be easily linked to one another, leading to many innovative uses. These stations were an alternative to the expensive proposition of outfitting each of 10 classrooms with 25–30 Macintosh computers that would have been linked to an instructor's computer. *Annual savings were more than $310,000.*
88-026

Design and Contracted Construction of Dormitory Room Lamps

Purdue University

When searching for desk study lamps to be furnished to each dormitory occupant at Purdue University, officials there found that the "ideal" product was not available within the commercial sector. So representatives from the residence halls, Purchasing Department, Facilities Engineering, and Central Machine Shop were challenged to design and build a prototype. The result was a lamp that is energy efficient, damage resistant, and virtually maintenance-free and has parts available from standard components. After building the prototype, specifications were developed and proposals solicited from manufacturers. After all expectations were either met or exceeded, three thousand lamps were installed in residence halls in 1987. The resulting *savings were almost $92,000.*
88-034

Substitution of Generic Chemicals in Water Treatment

Rutgers, the State University of New Jersey

In an ongoing program to reduce the cost of water

treatment for its heating and cooling systems, Rutgers has undertaken the task of using generic chemicals to reformulate brand-name chemicals. During 1987, the university's water-treatment chemist developed a replacement for a brand-name chemical solution that had been used to treat cooling tower water. The generic-chemical formulation reduced the cost of a 55-gallon drum of the solution from $900 to approximately $20. In addition, since the chemicals have been customized to the local water supply, the water treatment is less expensive

and of a higher quality. The *annual savings were more than $27,000.*
88-050

System Conversion to Comply with FASB #93 Depreciation Requirements

Western Michigan University

Western Michigan University (WMU), along with virtually all other higher education institutions in the country, is facing the challenge of complying with the new requirements of FASB Standard #93 on depreciation accounting. The university's three software options were (1) to purchase a new mainframe fixed-asset management system, (2) to obtain a PC-based fixed-asset management system, or (3) to upgrade the current system to include a depreciation module. The problem with the first option was the prohibitive cost associated with new mainframe applications. The PC option was explored and subsequently discarded due to difficulties with response time, data security, and backup. After a careful review and examination, WMU officials decided to upgrade and expand their existing system to handle the requirements of FASB #93. By modifying the system already in place, the university kept staff training and data-processing time to a minimum and realized *a saving of $13,000.* Since there were no software costs, license fees, or file-conversion charges, costs for staff time were kept under $2,000.
88-055

Computerized Security/Alarm System with Automatic Reporting

Indiana University Southeast—New Albany

To provide more efficient, economical security to its nine buildings and 178-acre campus, Indiana University Southeast installed an automated security/alarm system. The system employs a variety of remote sensors to detect virtually any type of unauthorized intrusion. The sensors are interpreted by a computer, which automatically alerts the campus police by VHF transmitter. Using a voice synthesizer and standard police 10-codes, the computer informs the duty officer of both the nature and location of the violation. The computer simultaneously looks up the alarm number and sends the following information to a computer screen in the police station: (1) that a detection has taken place, (2) the location of the alarm, and (3) the type of alarm. In many instances, the procedure for dealing with the alarm is sent as well. These data are then printed on paper, while the system waits for the officer to verify that the alarm is valid and that it has been received and to reset the system. This innovative approach to enhanced security has provided *an annual saving of more than $39,000.*
88-060

Training and Certification Program for Information Resources

University of Miami

The University of Miami has created a method of training and certification in microcomputer software applications by which university employees receive technical instruction in accordance with the requirements of their job descriptions. The program provides hands-on training using IBM personal computers and software applications that are general or that have been specifically tailored for the university. The applications include disk-operating systems, word processing, data-base management/programming, and spreadsheet analysis. To measure the skill level attained by each employee, certification examinations are administered following training. The program has contributed to a reduction in job turnover, an increase in overall microcomputer efficiency, and the development of a standard of software proficiency throughout the university. Additionally, the program has led to *an annual saving of more than $1,512,000.*
88-067

Using Generic Chemicals in Water-Treatment Program

University of Michigan

Prior to 1987, water-treatment chemicals were provided to the University of Michigan by large specialty-chemical companies that supplied only expensive brand-name products. Chemical-treatment companies combine technical service with their products, making it difficult to differentiate between service costs and chemical costs. University officials attempted to purchase chemicals and service individually, but the treatment companies would not agree to such an arrangement. When it was realized that the manufacturers of proprietary products simply purchase the necessary chemicals and then mix them into their own expensive blends, university officials hired a water-treatment consultant to develop chemicals according to university specifications. These specifications were then given to various blenders. Since all vendors were bidding on the same generic product, the university was able to choose the lowest price available. This method of water treatment, combined with further innovations suggested by the consultant, produced *an annual saving of more than $89,000* for the university.
88-069

Using Plate Heat Exchanger for Free Winter Cooling

University of Tulsa

The addition of new engineering facilities with related computer installations added significant winter cooling loads to those already experienced by the University of Tulsa's central plant. Conventional methods require the continual operation of mechanical refrigeration equipment throughout the year to provide cooling for the areas and zones containing such equipment. In addition to the energy costs involved, the operation of large chilling equipment at low ambients and partial loads is costly and detrimental to the equipment involved. After considering the simplicity of operation, overall efficiency, and capital cost, a plate heat exchanger was selected to provide winter cooling. The plate heat exchanger has no moving parts and can provide cold water within a few degrees of the cooling tower supply water without exposing the closed system to contaminants from an open system. The plates are constructed of stainless steel for long life, and a strainer with separator was installed to protect the heat exchanger. The resultant *savings were almost $35,000 annually.*

88-074

Training Program for Work-Study Students

New River Community College

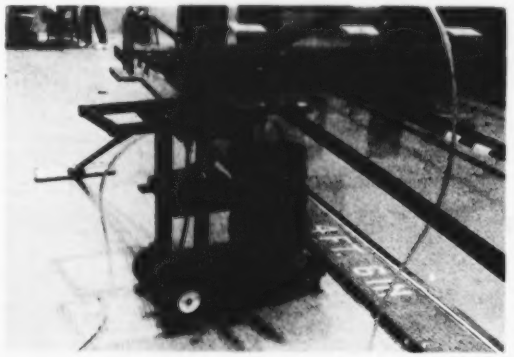
Faced with a shortage of personnel available to provide an increasing number of services, the Learning Resource Center of New River Community College initiated a comprehensive program to more effectively obtain, train, and retain college work-study students. After analyzing the staffing patterns in the center, officials discovered that work-study students were not properly trained and that no clear statement of departmental policies was available. It was also discovered that work-study supervisors required a thorough understanding of the college's financial aid program in order to function effectively. To address this situation, members of the Circonference Quality Circle at the center created a training program that included group and individual sessions for both work-study students and their supervisors. Furthermore, manuals were created that detailed procedures for the center and outlined several college policies. The result was enhanced communications, increased productivity, a general boost in morale, and *an annual saving of almost $42,000.*

88-078

Design of Cleaning Device and System for Swimming Pools

Skidmore College

During the summer of 1987, Skidmore College's new tile swimming pool needed to be cleaned. The college's subcontractor was reluctant to take the job because of a hydrostatic pressure condition that could damage the pool when drained for cleaning. The assistant director of physical plant designed a pool-cleaning device and system that eliminates the need to drain the pool, permits the safe cleaning of the entire pool with muriatic acid, and reduces the out-of-service time to one day. The system consists of a portable machine that dispenses the muriatic acid cleaning solution through a telescoping wand and then applies it directly on the submerged area



to be cleaned. This submerged area can be horizontal or vertical. Different wands are used for flat surfaces, corners, and stairs. By using this system, Skidmore *saved more than $6,000 annually.*

88-095

Heat Recovery from Boiler Jackets

Kent State University

A sheet metal shaft was erected from the forced-draft fan room of Kent State's #2 boiler to within three feet of the ceiling of the main boiler room. The hotter air at the ceiling level is then drawn through the shaft into the boiler as preheated air. The air at the ceiling level is 35°–65° F warmer than the air at the forced-draft room level. This is due to heat that leaks through the boiler jackets and is then trapped by the ceiling. Since all intake air is taken from within three feet of the ceiling level, air-intake temperature levels have been increased an average of 55° F. This translates into a .005 percent to .015 percent efficiency increase on the boiler, depending on the temperature of the intake air and the load level of the boiler. Kent State *saves $3,700 annually* with this simple and effective method of heat recovery.

88-103

Microwave Radio System for Leased Office Space

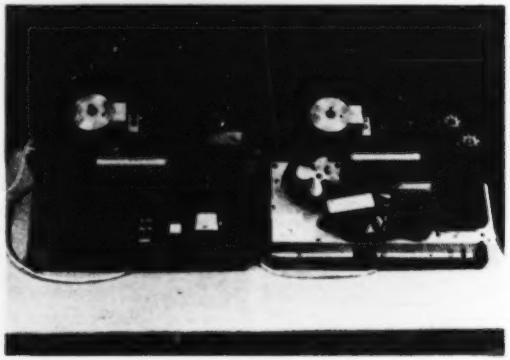
University of Texas at Austin

A major research institute at the University of Texas at Austin moved to a new leased location one mile from the campus research center. At its previous location, the institute used telephone service provided by the local phone company. One of the top priorities at the new location was to be able to connect communications equipment directly to the campus telephone system and data networks. The cost of three T1 digital carrier circuits leased from the telephone company would have been 3.3 times greater than a digital microwave radio system purchased and installed by the university. The microwave system operates in the 23 GHz band with a capacity of four T1 circuits. The savings can increase significantly by using the fourth T1 circuit, which is available for future needs at no additional cost. After the microwave equipment is no longer needed in the leased location, it can be relicensed and moved to another site off campus. Purchasing and installing its own equipment provided the university with *an annual saving of more than $23,000.*
88-113

Retrofit of Laboratory Equipment

Miami University

Spectrophotometry has long been a common analytical technique used in chemistry and biological laboratories to test light absorbency. Usually, the optical and mechanical components of a spectrophotometer represent about 80 percent of the manufacturing cost for such an instrument. Staff at the Instrumentation Laboratory at Miami University have designed, tested, and constructed more than 50 solid-state electronic circuit boards for retrofit into existing equipment. This equipment included vintage spectrophotometers with sound optical systems in which the performance advantage in installing new equipment would primarily be the result of advancements in electronics technology. Most of the restored instruments had been in use for 10 to 12 years, although some had been in use for 30 years. This innovative technique resulted in *a saving of almost $69,000* to Miami University.
88-118



Communications System for Maintenance Staff

Wartburg College

In 1987 Wartburg College equipped all members of its custodial, groundskeeping, and security staffs with 14 Fujitsu FM transceivers. Staff members carry the transceivers continually while on the job, and consequently they are able to stay in constant touch with each other, their supervisors, and the campus telephone console. Previously, large amounts of time were lost in attempting to locate staff members on campus. Telephones were helpful but often poorly located for serving staff needs. Personal beepers were tried, but they proved useless without a nearby telephone. Sending out runners was tremendously inefficient. Using the transceivers has resulted in an improved efficiency of the operations and maintenance staff and in an enhanced effectiveness of the campus security staff; moreover, the college has *saved almost $42,000.*
88-123

Wove versus Rag Content for Stationery

Salem State College uses approximately 150,000 to 200,000 envelopes a year. The lowest cost rag-content product available was $40.51 a thousand. Similar products using wove rather than rag content were available for $17.23 a thousand. For the vast majority of mailings, the wove envelope has proved quite satisfactory. This approach has cut the college's envelope costs by more than 50 percent, and it has been extended to the college's 8½" × 11" stationery. The college has *saved more than $4,600 annually.*
88-124

Interstate Moving Contract

University of Minnesota

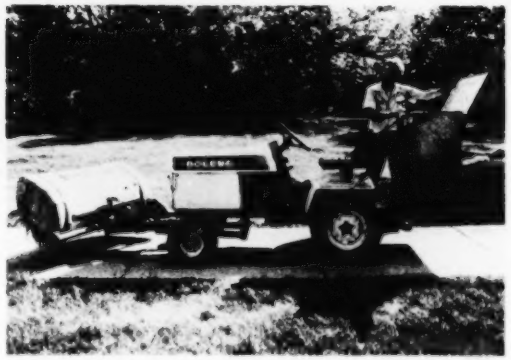
The University of Minnesota, like many major colleges and universities, hires faculty and administrators from all parts of the country. Although moving the families is often a major expense, it is a necessary service that can help or hinder the new employee's adjustment to a new area. University officials reviewed more than 100 previous moves and then released a Request for Proposal specifying the university's needs. After proposals were received and the resultant negotiations concluded, awards

were made and contracts signed with primary and secondary van lines. These contracts included a wide range of benefits: discounted prices, free insurance for the first $50,000 of household goods, a seasonal surcharge waiver, service by drivers rated best by moving companies, and many other benefits. Details of the contracts were made available through a number of university publications, and a Moving Information Packet was designed to further facilitate the use of this benefit. Through this plan, the university has *saved more than $52,000 annually.*
88-134

Pulling the Rug Out from under High Carpet Cost

North Carolina State University

North Carolina State University has found a way to get the most inexpensive carpet available without sacrificing quality. Each year carpet vendors bid on carpet, pad, and installation for glue-down and stretch-in and the installation of a 4" rubber base. Bids that are deemed acceptable are placed on the Qualified Products List, from which Purchasing Department officials choose vendors to sign a carpet contract with each year. The same carpets are specified by architects for renovation or new construction projects. In this way, university officials know on bid day what the best bargain will be. Since there is a great deal of variation in the pricing of carpets, saving can be maximized only by preserving the ability to choose on bid day. By leaving open its options to buy carpet in the construction contract or in a purchasing contract, the university has *saved almost $35,000 annually.*
88-140



Sidewalk Salting Box

Alverno College

In an effort to keep the campus sidewalks clear of snow and ice, the Grounds Department at Alverno College was faced with the challenge of keeping them salted throughout the winter. The side effect of heavy salting was damage to the lawn areas for several feet on either side of the walks. Smaller salters were tried; but because of their lack of capacity, several trips to the salt area were required for refilling. Large truck-type salters/seeders that had several times the capacity of the smaller units were obtained and modified with a simple shutter system. With this modification, the salter spreads its load evenly over the sidewalks without damaging the adjoining lawn. This innovation has saved time, labor, materials, and the expensive resodding of areas surrounding sidewalks. It has also *saved almost $9,000 annually.*
88-141

Automated Leavekeeping/ Timekeeping System for Physical Plant Employees

University of Kentucky

The Physical Plant at the University of Kentucky—Lexington employs 705 regular full-time staff and from 35 to 50 temporary employees for seasonal work. Before 1987 all leavekeeping and timekeeping functions for Physical Plant employees were accomplished through manual efforts. This system was slow and laborious and led to frequent complaints and cost overruns. As a result, the university planned to build a system whereby timekeeping information would have to be entered into the computer only once and all accounting functions would be handled electronically. Officials decided that the system would use the Wang VS300 terminals already located in each department and that the data entry would be performed daily. The system was implemented in three phases: (1) the establishment of personnel position and employee data files to provide timely information reports on staffing, employees, and positions; (2) the development of an electronic leave record for each employee, from which to calculate individual leave balances; and (3) the creation of an entry screen and flag codes for special circumstances such as overtime or hazardous-duty pay. This system, developed by the university, has led to a more accurate, acceptable form of timekeeping and *saved $50,000 annually.*
88-144

Retrofit of VAV Box for Veterinary Hospital

University of Pennsylvania

The VAV Box is a device containing a damper that restricts or allows air flow into a room, thereby controlling the room's temperature. The damper is under the control of a room thermostat. The force that pushes the damper open or shut to meet the requirements of the thermostat can come from either compressed building air (pressure-

independent system) or static pressure within the duct system itself (pressure-dependent system). The dependent system, which is the less effective of the two, was in use at the university's veterinary hospital prior to the retrofit. Small quantities of dirt had built up within the system and caused a high static-pressure loss. The loss caused the VAV Box's damper to be inoperable and rooms to be too hot or too cold. By fitting each VAV Box with its own pneumatic motor that could operate the box's damper, pressure-independent systems were created. This led to more efficient temperature control and *a saving of $13,000* for the university.
88-152

Free Cooling from Central Chilled Water Plant

Cornell University

The free cooling incorporated in the expansion of Plant 3 at Cornell University involves using a plate and frame heat exchanger to directly transfer heat from the campus chilled water to cooling tower water without the use of the chiller and a refrigeration cycle. When outdoor temperatures reach 35–40° F or below, the chiller is turned off and the evaporator and condenser flows are directed to the plate heat exchanger through the use of automatic valves. The tower water is cooled down from its normal temperature and in turn can be used to generate chilled water using only the tower fans and circulating pumps. This saves the compressor energy of the chiller, which would otherwise be running under these weather conditions. This innovative approach has eliminated or significantly reduced the negative aspects of free cooling and produced *an annual saving of $48,000.*
88-159

Maintenance Project for Centrifugal Chillers

Vanderbilt University

The Vanderbilt and Peabody campuses of Vanderbilt University have 19 centrifugal chillers, ranging from 115-ton units to 650-ton units, and 16 reciprocating chillers, ranging from 30-ton units to 90-ton units. Most of these chillers are 15 to 30 years old. After an extensive analysis of all chillers on both campuses, officials determined that 14 of the centrifugal chillers were operating beyond their predicted useful life. To avoid the significant cost of chiller failure, specifications were written and bids solicited for the teardown and inspection of all chillers. Subsequently, repairs were made on those chillers in need of repair, and the university *saved more than $36,000* in potential operating costs. Moreover, the maintenance program prevented further chiller failure, providing additional savings.
88-164

Designing and Developing an Integrated Purchasing and Payment System

University of Wisconsin—Stout

When the Budget and Financial Services Department at the University of Wisconsin—Stout had the opportunity to automate the university's purchasing and payment functions, a team was formed to design an integrated system. The team developed two main techniques that guided the project. The first technique involved taking an overall approach. This meant examining the work environment and physical layout, reviewing paper flow and position descriptions, interviewing staff, and identifying users on and off campus. Programming specifications were developed from the analysis. Benefits stemming from this overall approach were a more efficient use of space, streamlined paper flow, identification of equipment needs, and redesign of forms. The second technique involved eight important concepts that were formed to guide the team in the redevelopment of office functions: (1) eliminating manual logs, (2) reducing the number of hard-copy documents, (3) instituting "one-touch processing," (4) easing data entry, (5) employing adequate control by preaudit and purchasing, (6) developing satellite input centers, (7) considering departmental and managerial needs, and (8) eliminating manual functions better handled by automation. This led to a more efficient purchasing and payment system and helped *save more than $40,000.*
88-173

Using Radio Call Boxes as Emergency Telephones

DePaul University

To provide the public with emergency calling capability at remote locations on campus, officials at DePaul University had three options: (1) installing conventional emergency telephone call boxes, which was unacceptable because of the extensive

trenching involved, disruption of existing cable lines, and questions of access permits for the new lines; (2) installing cellular call boxes, which was unacceptable because of their dependence on the number of available relay stations and a 10-second radio-to-telephone time lag; and (3) installing radio call boxes, which was acceptable because it required no trenching or pulling of cables, provided a practically instantaneous transmission directly from radio to base station, and entailed no monthly or per-minute charges. Since DePaul already had a radio frequency in use by its security personnel, the system was integrated with the handheld radios of security personnel and did not result in additional licensing fees. The radio emergency call boxes have enhanced campus security and provided *an annual cost reduction of more than $20,000.*
88-185

Using Microcomputers in Effort-reporting Tracking System

University of Maryland at Baltimore

During the fall of 1987, the University of Maryland at Baltimore (UMAB) began designing and developing a microcomputer-based application to relieve administrative staff in the Department of Cost & Special Studies (Comptroller's Office) of the burden of controlling and managing effort reporting. UMAB issues effort reports every six months. Employees paid from sponsored projects report every six months; nonsponsored and administrative employees report annually at the end of the fiscal year. With approximately 2,500 effort reports issued every six months, the development of automated support to manage and control the process has had the dual impact of significantly reducing staff workload and providing a management resource for the monitoring and analysis of effort reporting. The system makes use of dBase III-plus software and was built using mainframe salary/payroll data. It uses information from the master file to generate a variety of reports. The system has reduced the flow of paper in the effort-reporting process and *saved more than $54,000.*
88-198

28

Converting Cooling Towers from Closed to Open Operation

Washington State University

Rather than replace the badly leaking closed cooling towers with a completely new open system at Washington State University, officials there decided to modify the existing structure. This modification involved removing the "closed" tower piping system and blocking all open ends of the tubing sections. An analysis of a tubing section indicated that it could be effectively used as a baffle system, which would tend to distribute the cooling water evenly throughout the entire tower. This approach was similar to an alternative suggested by the cooling tower manufacturer, which would have used PVC baffles and had a significantly higher cost. The employed method of conversion maximized the use of existing structures, improved condensate cooling efficiency, and *saved $7,100.*
88-201

Obtaining First-Quality Carpet at Discount Prices

Oklahoma State University

Faced with an economy suffering from the decline of the oil industry and shrinking state resources, Oklahoma State University devised a method to reduce the cost of construction and renovation projects by cutting carpet costs. Several manufacturers were contacted to ascertain the possibility of procuring carpeting at a minimum expenditure. Two manufacturers were persuaded to provide regular computer printouts that listed discontinued items, overruns of custom goods, and other types of carpeting reduced in price. The printouts contained quantities available according to pattern, color, and dye lots. The products listed were reduced from 30 percent to 80 percent below cost. The university was able to take advantage of situations where first-quality carpet was available at substantially reduced prices and to *save more than $84,000 annually.*
88-210

Modifying Computer Tables for Handicapped Students

West Virginia University

West Virginia University has found that with a slight modification standard computer stands/tables can provide efficient and economical classroom stations for handicapped students. Modification involves only the addition of casters with adjustable-height locks and the application of standard blue-and-white handicapped symbols. The height expansion offered by the casters is necessary to raise the knee clearance of a table to the accepted standard of 27¼". As an added feature, the casters enhance table portability between and within classrooms. When not in use, the tables can be conveniently and inconspicuously stored. Applying handicapped symbols identifies and reserves handicapped student stations and acts as an effective deterrent to inadvertent removal, misuse, or misappropriation. By creating its own stations, the university *saved $128 a table* over the more expensive method previously used.
88-211

Maintenance Prescription Drug Plan for Retired Employees

Pennsylvania State University

Prescription medications are made available to

pharmacies in educational institutions and teaching hospitals at costs that are generally less than the price of those same medications to pharmacies in the retail market. If the sale of the medications is confined to the people in the institution who qualify to purchase them at these low prices, they may be dispensed under the "own use" exemption covered in the Robinson Patman Price Discrimination Act. The Maintenance Prescription Drug Plan was implemented in October 1987 to allow retirees of Penn State University to join active employees who benefit from the plan. That implementation has provided the university with *savings of almost $289,000 annually.*
88-230

Innovative Accounts-Payable System

University of Arkansas—Fayetteville

In the past at the University of Arkansas, invoice processing was a laborious, assembly-line task. The number of manual operations accomplished by different people was conducive to chain reactions of clerical errors and disruptions to the processing. Through the use of behavioral management techniques and the development of microcomputer applications, university officials streamlined and completely automated the accounts-payable division. First, suggestions were solicited from employees, then several changes were made in the processing to increase both the quality and quantity of work involved. These changes were designed to maximize the benefits of recent automation. The system uses an IBM 3270 screen interface function to capture mainframe data that are downloaded and manipulated by microcomputer. This feature automated two jobs that were previously manual operations, resulting in an improvement in accuracy and *an annual saving of more than $36,000.*
88-246

Elimination of Time Clocks for Hourly Employees

University of Vermont

With 216 hourly employees at 13 base locations on campus, officials at the University of Vermont determined that productive time could be increased by eliminating time clocks. An employee's time can be better spent by going immediately to a job site at the beginning of a shift rather than by traveling to a central location to punch a time clock, as was previously required. This was most evident at midday, when employees were required to leave their job sites, travel to the base station, punch their cards, and then go to lunch. After lunch, the process would be reversed. The old system of using time clocks resulted in unnecessary travel and lost time. By having employees fill in their own time cards, the university *has saved more than $147,000 annually.*
88-252

Comprehensive Self-Study for Office of Student Services

Syracuse University

The Office of Student Services at Syracuse University underwent a major self-study during 1987. The eight goals of the study were (1) to gather information from each unit of the office regarding the unit's total operation and how it perceives its mission and commitment to service, (2) to identify strengths and weaknesses in each unit and in the office as a whole, (3) to incorporate the use of existing standards in each unit, (4) to develop and refine a continuing evaluation process in each unit, (5) to facilitate planning for future directions throughout the office, (6) to contribute to professional advancement by self-study or standards and guidelines, (7) to gather sufficient material for response to accreditation agencies where appropriate, and (8) to generate articles and presentations based on the results of the study. The study was composed of three phases: the first phase was mainly concerned with planning and preparation; the second phase involved the actual compilation of information; and the third phase involved the implementation of specific action plans according to a predetermined schedule of dates. Although it was not a specific goal of the study, a significant number of cost-saving innovations were expected to result from it. Those innovations led to *an annual saving of more than $1,092,000.*
88-259

Removable/Reusable Insulation Jackets for Valves/Expansion Joints

Texas Tech University

Expenses associated with energy losses and the excessive insulation work required on almost seven miles of utility tunnels prompted Texas Tech to purchase a removable/reusable insulation-jacket system. The most important aspect of this innovative system is the labor savings inherent in eliminating the previous requirement of two insulation technicians: one to remove and lay aside cladding and insulation and another to reapply what was previously removed. The new procedure requires only one maintenance crew (technicians are not involved), and the jackets can be easily removed and replaced immediately after valve/joint repair is completed. Labor costs have been reduced by 60 percent under the new system, and the lengthy, uninsulated exposure time with the removable/reusable insulation jackets is minimal, thereby reducing energy loss. Moreover, the removable jackets offer equal or greater insulation value. *Annual savings totaled more than $12,000.*
88-040

Cleaning Fuel-Oil Tanks with Lube-Oil Purifier

Texas Tech University

Necessary routine fuel testing of Texas Tech's diesel-driven, emergency-power generator, which

serves the Texas Tech Health Sciences Center and Lubbock General Hospital, indicated the existence of sediment in the two 20,000-gallon underground storage tanks. Rather than employ a commercial contractor, the university used its existing Alfa-Laval, disk-type centrifugal lube-oil purifier to clean the tanks and provide long-term system maintenance. The lube-oil purifier connections to the system needed to be only slightly modified. The purifier inlet was connected to the suction line coming from the fuel-oil storage tank and its discharge connected to the fuel-return line. This modification required only a few minutes to execute, and the purifier was subsequently returned to cleaning lube oil just as easily. Once the fuel oil was cleaned, an additive was administered to the fuel to inhibit bacterial growth and enhance the fuel cetane value (ignition quality). Any institution operating similar diesel equipment can benefit in cost savings and preventive maintenance by using this technique; Texas Tech *saved more than $8,200 annually.*
88-041

Mail-routing Search by Computer

University of Houston

The University of Houston receives a large volume of mail that is not clearly addressed to a person or department. To decrease the research time required for the routing of such mail, a computerized telecommunications directory was established. The former manual search procedures took one person from 15 seconds to 10 minutes to find the necessary information to route one piece of mail, with the average time being one piece routed every two minutes, or 30 pieces an hour. Now with a computer terminal at the university's postal department that is linked to the central telephone switchboard computer (which has files that are updated weekly by the university's personnel department), one piece of mail takes only about 10–15 seconds to be properly routed. That translates into approximately four pieces a minute, or 240 pieces an hour. The new directory has provided *an annual saving of almost $18,900.*
88-042

32

Mandatory Recycling of Solid Wastes

Rutgers, the State University of New Jersey

Rutgers University has implemented the mandatory recycling of white office paper, newspaper, aluminum cans, glass beverage containers, corrugated cardboard, and vegetative wastes at its New Brunswick campuses. Additional savings were realized by avoiding dumping costs. *Total annual savings were more than $422,000.*
88-047

National Motel/Hotel Discount for State Institutions

University of Cincinnati

By offering the buying power of all 38 of the state institutions in Ohio, the University of Cincinnati was able to negotiate a 40–50 percent reduction in hotel rates in those cities frequented most by state university staff and students. It was determined that the 38 state universities and colleges of Ohio collectively spent approximately 45,000 nights of lodging in 12 national cities. The Inter-University Group of Ohio had sought discounts in the past from the major national hotel chains, with the results being comparable to the corporate-rate level (i.e., a discount of approximately 10 percent). Exact expenditures, usage of the lodging agreement, and savings involved in the current agreement (which is available to all state universities and colleges of Ohio) cannot be known because of the decentralized nature of travel finance at most institutions; however, *annual savings have been estimated at $480,000.*
88-051

Mobile Asbestos-Abatement Chamber

Iowa State University

Iowa State University (ISU) has developed and trained its own asbestos-abatement crew to minimize costs and maximize efforts. ISU modified and designed several items of equipment to make asbestos abatement easier, quicker, and less expensive. The removal of asbestos was streamlined in 1987 when a mobile chamber that can be moved from one ceiling tile to the next was developed. The chamber consists of a 3′ × 6′ metal framework built on a platform with wheels. The framework is adjustable to different ceiling heights for maximum versatility. The chamber is equipped with polyethylene walls and floor and a door with a triple flap fashioned on one end. At the opposite end, an opening is made for a negative air hookup and a HEPA (High Efficiency Particulate Air) filter. The mobile chamber is moved from one ceiling tile to the next, and the negative air hookup contains any asbestos debris or fibers within the chamber, thus eliminating the necessity of a general contamination and cleanup of the whole room. This greatly reduced costs by speeding up asbestos removal and cutting down on preparation time, cleanup time, and testing efforts. *Annual savings of more than $113,000* were realized.
88-081

Modification of Air-Filter Frames

Grand Valley State University

Maintenance mechanics at Grand Valley State University found their washable air-filter cleaning program unsatisfactory for two reasons: (1) the task of removing the filters, taking them to the Service Building, and then cleaning and returning them was considered a waste of time and labor; and (2) because of the amount of dirt and dust found on heating and cooling coils, the mechanics did not consider the air to be adequately cleaned. A decision was made to test the effects of using disposable filter media on air quality in the buildings and on required replacement time. Rather than obtain new filter frames at $7 each, old ones were modified with disposable filters. This involved removing all of the washable mesh filters except the one that holds the 1" replacement media filter pad in place along with a heavy-gauge wire installed as a spring to secure the opposite side. Test results

demonstrated an increase in air quality, which led to the modification of all the filter frames on campus and *saved more than $10,000* for the university.
88-089

Incentive Program for Purchasing Generic Drugs

Grand Valley State University

To improve benefits available to faculty and staff and to fight rapidly rising health-care costs, officials at Grand Valley State University instituted a dual-deductible prescription drug program that eliminated copayments for generic drugs. The purpose of the plan was to improve the prescription drug benefit for faculty and staff while controlling the increasing rate of prescription drug costs in the university's self-insured medical plan. Consumer education plays a vital part in the program. Most people select brand-name drugs instead of generics because of (1) a lack of understanding of the similarities and usefulness of the generics and (2) the absence of any cost incentive to choose generics in most prescription-drug card programs. The cost of implementing the dual-deductible prescription drug program was minimal, and it led to an estimated *annual saving of almost $14,000.*
88-091

Using Alternative Parcel Service

The University of Texas at Austin

When Texas state regulations regarding intrastate shipments and delivery of parcels were revised, officials at the University of Texas at Austin compared and evaluated the services provided by alternative carriers. The officials' findings indicated significant advantages in delivery time and costs when using a national parcel service. Delivery time ranged from one day for intrastate shipments to three to four days for shipments in the Continental United States, depending on the zone. The largest difference in rates between the old carrier and the new one was found in the 11-ounce-to-7-pound range. With an average package weight of two pounds, and 60 to 65 percent of the shipments being made within Texas, these advantages were well suited for the university's parcel shipments. Using this alternative carrier system has resulted in faster delivery at lower cost and *an annual saving of more than $82,000* for the university.
88-114

Inventory-Control System for Accounting Documents

The University of Texas at Austin

To expedite the handling of accounting materials at the University of Texas at Austin, officials initiated a document-control program that operates as an automated library system. Accounting documents are requested, checked out, checked in, or assigned to a pending file by computer terminals. Information entered in the request phase is maintained throughout the system so that subsequent transactions can be handled with a minimum of keystrokes. Requests for documents can originate from any terminal in the system, with update capabilities exclusively reserved for the file room staff. Additional terminal displays provide users with document information such as the location, checkout date, and estimated date of return of the document and the phone number and location of the office of the current holder of the document. This allows users to consult each other and bypass the file room staff. It also allows the university to *save more than $10,000 annually.*
88-115

Prime-Vendor Contract for Purchasing Pharmaceuticals

University of Kentucky

Many colleges and universities have instituted prime-vendor contracts for the procurement of various supplies. Generally, the objectives of the prime-vendor concept are (1) to reduce the number of contracts, thereby reducing the direct and indirect logistical costs relating to the ordering, receiving, and payment of supplies; (2) to reduce unit prices through high-volume purchasing; and (3) to reduce delivery time through the electronic processing of orders. After the University of Kentucky awarded a purchasing contract to a primary pharmaceutical vendor, the following occurred: 80 percent of the university's required pharmaceutical purchase orders were able to be switched from manual processing to electronic; the university hospital's pharmaceutical inventory at the end of the year decreased from $338,000 to $278,000; annual inventory turnovers increased from 13 to 16 (with a goal to achieve a turnover of 20 a year); the number of contracts for pharmaceuticals has been reduced from 100 to 10; and delivery time now normally occurs within 24 hours (it formerly occurred after one week). The university's prime-vendor contract has resulted in *an annual saving of $110,000.*
88-146

Reducing Banking Costs by a Modification of Processing

Cornell University

A detailed review of monthly bank statements prompted Cornell University officials to make two processing modifications that have reduced total university banking costs (excluding custodial fees) by approximately 25 percent. Rising costs for money transfers induced the university to implement the first modification: an electronic money-transfer system offered through its principal bank. The savings are a result of a significant reduction in the per-item transaction cost of wire transfers processed electronically rather than manually. In addition, the electronic communications system provided Cornell with the ability to obtain same-day information on the university's primary bank accounts. This led to a more effective and timely management of funds. The second modification concerned the collection of funds from the U.S. government through letters of credit. By switching to a local bank as its collection agent, Cornell was able to forecast more effectively and track a significant amount of cash receipts, thereby improving the university's money-management program. *Annual savings totaled $78,000.*
88-158

Automation of Annual Financial-Audit Workpapers

Dallas County Community College District

The Dallas County Community College District (DCCCD) has recently created a way to convert 60 workpapers and schedules from a manual process to an automated one. The project uses a computer to retrieve, summarize, group, and manipulate data from the general ledger much more quickly and accurately than previous manual efforts did. DCCCD used an established budget program that simulates a computer "card deck." Each card contains 80 columns and could be one of four types: header, detail, total, or list. By sorting, totaling, and grouping the cards, operators can manipulate the presence or absence of general ledger accounting entries on each workpaper (which is called a member of the entire deck and given a name). Columns 1 to 6 organize the deck sequentially, allowing flexibility to insert or delete cards as accounts are added or deleted from the general ledger. Officials of DCCCD have had to perform detailed reviews and test runs against prior-year files to debug the programs; yet after comparing their trial balance against the work, the officials have been satisfied with the results of the innovation. This system has *saved more than $103,000 annually.*

88-247

Other 1988 Participants

Auburn University
- Transportation Gas Purchases: 88-014
- Vehicle Maintenance—Reduction in Frequency of Oil Changes: 88-015

Barry University
- Coordinating Administrative Microcomputer Purchases: 88-214

Belmont Abbey College
- Refurbishing and Startup of an Abandoned Coal Boiler: 88-068

Beloit College
- Implementation of Desktop Publishing Systems: 88-109

Boston University
- "The Guide": 88-194
- A Student's Guide and Reference to the Basic Functions of Main Student Service Offices on Campus, Alias "The Direct Line": 88-195
- Method of Sorting Checks in Accounts Payable: 88-196

Bowling Green State University
- 911 Emergency-Call System: 88-104

Brigham Young University
- In-House Replacement of Obsolete Rubber Components: 88-227

Bryn Mawr College
- Building Advocate Program for Dormitories: 88-131

Case Western Reserve University
- Conversion of U-Matic Tapes to VHS Tapes: 88-216
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